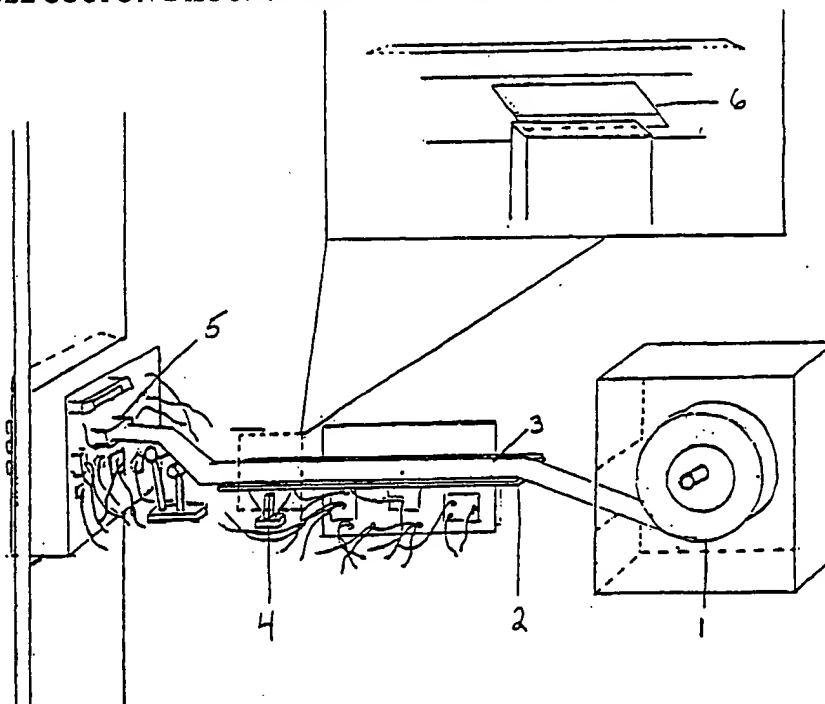




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>4</sup> :  G06F 15/20	A1	(11) International Publication Number: WO 89/054 60 89 05489 (43) International Publication Date: 15 June 1989 (15.06.)
<p>(21) International Application Number: PCT/US88/04312</p> <p>(22) International Filing Date: 7 December 1988 (07.12.88)</p> <p>(31) Priority Application Number: 130,088</p> <p>(32) Priority Date: 8 December 1987 (08.12.87)</p> <p>(33) Priority Country: US</p> <p>(71)(72) Applicant and Inventor: HALLIBURTON, W., Kenneth, Jr. [US/US]; 3826 Chisholm Road, Murfreesboro, TN 37129 (US).</p> <p>(74) Agents: ANDERSEN, Donald, R.; 1479 Brockett Road, Suite 200, Tucker, GA 30084 (US) et al.</p> <p>(81) Designated States: AT (European patent), BE (European patent), CH (European patent), DE (European patent), FR (European patent), GB (European patent), IT (European patent), JP, LU (European patent), NL (European patent), SE (European patent).</p>		<p><b>Published</b></p> <p><i>With international search report. Before the expiration of the time limit for amending claims and to be republished in the event of the rec. of amendments.</i></p>

(54) Title: REDEEMABLE COUPON DISBURSEMENT CONTROL AND REPORTING SYSTEM



## (57) Abstract

A redeemable coupon disbursement control and reporting system especially for modified and improved automated teller machines including either a bar code scanner attachment (4) used with preprinted continuous roll (3) or single sheet automated teller machine receipt paper or a printer responsive to signals from the user of the automated teller machine. either form, first recording means (R1) or (R2) are communicably attached to the disbursing or printing means (P1) and mote optical scanning means (S1) are employed at the point of coupon redemption (5), such scanning means (S1) bei attached to either such first (R1) or a second (R2) recording means reconcilable with information recorded on such first cording means (R1).

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REDEEMABLE COUPON DISBURSEMENT  
CONTROL AND REPORTING SYSTEM

The present invention is a redeemable coupon disbursement control and reporting network especially for use with modified and improved automated teller machines such as those currently used in the banking industry. At the present time, it has been estimated that over four billion transactions each year take place between banking customers and their banks through the use of automated teller machines. It has also been estimated that an even larger number of redeemable coupons are printed each year of which only a fraction are actually redeemed, and it is not possible in existing systems to control the disbursement and redemption of such printed coupons in an inexpensive and flexible manner.

Automated teller machines vary widely in specific design but common elements of all varieties in current use include the use of continuous roll receipt paper which is conveyed through the automated teller machine. The use of single sheet receipt paper is possible but is not believed to be a current practice. The automated teller machine receipt is printed individually for each transaction and is then cut and issued to the customer for his record. The paper is loaded into the automated teller machine at one end of the paper path into or onto a paper holder and then is fed through the machine to an external opening where the customer receives it. The transaction is summarized and printed onto the receipt, and information concerning the transaction is relayed to a recording device, generally a computer. The length of the receipt is often determined by signals sent to the conveyer by a diode which reads solid marks preprinted on the continuous roll of receipt paper at given intervals.

Automated teller machines also have means for communicating with the customer. Generally, the automated teller machine has a visual display device for

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providing instructions and information to the customer, and the automated teller machine has a manually-operated keyboard, panel or set of switches by which the customer supplies information to the bank regarding each transaction.

Advertisers frequently seek to target customer groups such as those conducting banking business in a given geographical area. Because banks are generally unwilling to provide customer lists to prospective advertisers and because banks are often unable to determine which branches their customers most frequently use, such advertisers must seek other means of reaching such groups effectively and efficiently. Historically, coupon promotion success has been capable of being measured in general terms only, by comparing gross sales before, during and after the promotion. A comparison of the number of coupons actually distributed to the number of coupons actually used is generally inaccurate because of the inability to track printed coupons which for one reason or another are discarded prior to distribution to a customer. In addition, it is difficult to control disbursement, and it is not unusual to find coupons being accumulated for multiple use by the same customer.

In addition, banks are finding costs continuing to increase but have generally not developed any means for effectively using the reverse side of automated teller machine receipts for generating income. Instead, banks charge users of their automated teller machines a fee for each transaction. Many automated teller machines are capable of handling the transactions of customers of more than one banking institution through a networking arrangement, and the fees charged per transaction are generally higher for users who are not customers of the bank owning the particular automated teller machine. The fees for both bank customers and nonbank customers, though generally small, are usually substantially higher than the fee charged for writing a check, and some

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customers avoid using automated teller machines to avoid the fee, instead, writing checks or otherwise handling their banking needs. Because the overhead associated with a bank's automated teller machine fluctuates only slightly with greatly increased volume, increased volume can significantly increase profitability (or decrease losses) from the automated teller machine and therefore banks seek to increase the use of their automated teller machines. The fees charged for use of automated teller machines are generally in amounts similar to the amounts frequently found in redeemable coupon promotions conducted by fast food restaurants and other vendors.

It is believed that the most frequently occurring transaction at automated teller machines is that of cash withdrawal from the customer's account. Thus, customers of automated teller machines are likely to have cash in hand at the time of receipt of the automated teller machine receipts. Further, automated teller machines are frequently used after regular banking hours but during hours in which fast food and other vendors remain open, and automated teller machines are generally designed to limit the number of transactions which may be conducted by a given customer within a given time period.

Finally, it is difficult to devise inexpensive and effective systems for distributing single coupons to individual customers. Printed materials that are widely distributed as through mailings or publication of advertising in newspapers and magazines are subject to accumulation in the hands of a few customers for multiple use, requiring the vendor to honor coupons, usually done at a loss for promotional purposes, without the intended widespread goodwill and diversity of customers.

#### SUMMARY OF INVENTION

It is an object of the present invention to provide an inexpensive and flexible redeemable coupon disbursement control and reporting system especially for use with automated teller machines.

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It is a further object of the present invention to provide a modification to an automated teller machine by adding a bar code scanner along the paper path of such automated teller machine for the purpose of reading preprinted bar codes on the reverse of a continuous roll of automated teller machine receipt paper.

It is a further object of the present invention to replace the single-function diodes used to control receipt paper length with a multi-function bar code scanner having the capability of both signaling proper paper length and relaying additional information to a recording device.

It is a further object of the present invention to provide a modification to an automated teller machine by adding a printer capable of printing coupon information on the back of an automated teller machine receipt and which is responsive to selections made by the user of the automated teller machine.

It is a further object of the present invention to provide a modification to an automated teller machine by adding a wand bar code scanner at a remote location capable of reading bar code information printed on automated teller machine receipt paper.

It is a further object of the present invention to provide a modification to an automated teller machine by making receipts issued therefrom more valuable and less subject to being disposed of indiscriminately, thus reducing littering near the automated teller machine.

It is a further object of the present invention to provide a modification to an automated teller machine for the purpose of reducing the net cost to the user.

It is a further object of the present invention to place redeemable coupons in the hands of prospective customers who are likely to have cash in hand.

It is a further object of the present invention to provide a system for controlling the number of coupons distributed to each individual customer.

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It is a further object of the present invention to provide means for accurately recording information about the automated teller machine redeemable coupon receipts which are actually redeemed at remote locations.

The foregoing objectives and still other objectives and advantages of the present invention will become apparent upon reading the following specification describing one preferred embodiment of the invention and also by reading the claims and referring to the following drawings in which the numbered parts of the embodiment described in the specification are shown by like numbered parts in the drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a preferred embodiment of the present invention.

FIG. 2 is a schematic diagram of the same preferred embodiment of the present invention.

FIG. 3 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 4 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 5 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 6 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 7 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 8 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 9 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 10 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 11 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 12 is a schematic diagram of another preferred embodiment of the present invention.

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DESCRIPTION OF PREFERRED EMBODIMENTS

The following descriptions set forth preferred embodiments of the present invention. It will be understood that there are other embodiments of the present invention, and the scope of the present invention is not limited by the following description of preferred embodiments.

Referring to Figure 1, one preferred embodiment of the improved automated teller machine has a bar code scanner 4 positioned below a metal paper conveyer 2 having a hole 6 to permit the bar code scanner 4 to be directed toward, and focused on, the back of the continuous roll of automated teller machine receipt paper 1. The continuous roll of automated teller machine receipt paper 1 has been preprinted with advertising materials such as redeemable coupons together with a bar code symbol encoded with information describing such advertising material and also describing the location at which the receipt paper is being used. In order to avoid redemption of preprinted coupons which have not been properly disbursed through the control and reporting system, language is added to the coupon stating that a valid banking transaction must appear on the reverse to validate the coupon. The bar code scanner 4 is connected to recording means, shown schematically in Figures 1 through 12 as R1 or R2, such as a computer, and sends the encoded information from each bar code to such recorder R1 or R2. The bar code scanner 4 may also be connected to the conveyer 2 to control the length of the individual receipt to be cut from the continuous roll of automated teller machine receipt paper 3 by cutting means. The conveyer may be started by the user of the automated teller machine at the automated teller machine face 5 at the conclusion of the transaction and then may be stopped by a signal from the bar code scanner 4.

Using the improved automated teller machine, advertisers will be able to target banking customers in a



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given locale and will have an accurate record of the number of redeemable coupons actually issued, permitting a subsequent comparison of the number of coupons actually redeemed to the number of coupons actually issued.

Referring now to Figures 8 through 12, in a second preferred embodiment of the present invention, a printer P2, is added in a position to permit printing on the back of the continuous roll of automated teller machine receipt paper 3. The printer P2 is capable of printing both bar code symbols and alpha numeric information and may be responsive to instructions given by an automated teller machine customer at the user communication means UCM. The automated teller machine means for communicating with the customer UCM would be programmed to give the customer an opportunity and means for selecting one or more of a group of coupons which the customer would like to have printed on the back of his automated teller machine receipt. Thus, a single vendor can compare which of a group of discounts would be the greatest motivator in attracting the customer to his establishment. Information gathered would be useful in providing reliable market research to be used in designing future promotions and in particular would result in better use of advertising space in printed publications where cost and space do not permit a vendor to provide a variety of coupons from which the customer can select.

In the second preferred embodiment of the present invention, it will be possible to provide redeemable coupons from a variety of vendors so that each customer should be able to find at least one coupon for a vendor that he would like to patronize.

In a third preferred embodiment of the present invention, one or more wand bar code scanners S2 are placed at remote locations for the purpose of recording information from the automated teller machine redeemable coupon receipts as they are redeemed. Ideally, such

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remote scanners S2 would be communicably attached, as by a modem and dedicated telephone line, to the recording means R1 or R2. Alternatively, independent recording means R3 may be used with the remotely located wand bar code scanners S2. Data from such independent recording means R3 may be preserved in any convenient form such as a machine-readable disk and such data may be entered into the recording device R1 or R2 from time to time at convenient intervals for consolidation and reconciliation of data. Alternatively, a fourth recording device R4 at a central location may be used to consolidate data from multiple automated teller machines and remote wand bar code scanner means recording devices R3.

From the foregoing description it will be seen that this invention provides an improved automated teller machine meeting the objectives set forth above. It will be understood, however, by those skilled in the art that this invention may be adapted to encompass other embodiments of the invention other than the preferred embodiments set forth above, that the embodiments of the invention described above are merely illustrative, and that the present invention is limited solely by the appended claims.

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CLAIMS

1. A redeemable coupon disbursement control and record system comprising:
  - (a) An automated teller machine including a user communication means for communication between the automated teller machine user and the automated teller machine, a means for preparing a paper receipt, a means for conveying said receipt paper through said automated teller machine, and a first means for recording information;
  - (b) Scanning means along the path of conveyance of said receipt paper for reading information recorded on at least one surface of said receipt paper; and
  - (c) Means for relaying information from said scanning means to said first recording means.
2. A redeemable coupon disbursement control and record system as recited in claim 1 wherein said scanner is an optical scanner.
3. A redeemable coupon disbursement control and record system as recited in claim 2 wherein said optical scanner includes a laser scanner.
4. A redeemable coupon disbursement control and record system as recited in claim 1 wherein said first recording means is also communicably linked to said user communication means.
5. A redeemable coupon disbursement control and record system as recited in claim 1 further comprising one or more remotely located scanning means capable of receiving information from said receipt paper.

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6. A redeemable coupon disbursement control and record system as recited in claim 5 wherein said remotely located scanning means are communicably linked to said first recording means.
7. A redeemable coupon disbursement control and record system as recited in claim 5 further comprising a second recording means communicably linked to said remotely located scanning means.
8. A redeemable coupon disbursement control and record system as recited in claim 7 further comprising a third recording means capable of receiving information from one or more of said first and second recording means and capable of compiling, comparing, analyzing and reconciling said information.
9. A redeemable coupon disbursement control and record system comprising:
  - (a) An automated teller machine including a user communication means for communication between the automated teller machine user and the automated teller machine, means for preparing a paper receipt, means for conveying said receipt paper through said automated teller machine, and a first means for recording information and a second means for recording information;
  - (b) Scanning means along the path of conveyance of said receipt paper for reading information recorded on at least one surface of said receipt paper; and
  - (c) Means for relaying information from said scanning means to said second recording means.

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10. A redeemable coupon disbursement control and record system as recited in claim 9 wherein said second recording means is also communicably linked to said user communication means.
11. A redeemable coupon disbursement control and record system as recited in claim 9 further comprising one or more remotely located scanning means capable of receiving information from said receipt paper.
12. A redeemable coupon disbursement control and record system as recited in claim 11 wherein said remotely located scanning means are communicably linked to said second recording means.
13. A redeemable coupon disbursement control and record system as recited in claim 11 further comprising a third recording means communicably linked to said remotely located scanning means.
14. A redeemable coupon disbursement control and record system as recited in claim 14 further comprising a fourth recording means capable of receiving information from one or more of said first, second and third recording means and capable of compiling, comparing, analyzing and reconciling said information.
15. A redeemable coupon disbursement control and record system as recited in claim 9 wherein said scanning means includes an optical scanner.
16. A redeemable coupon disbursement control and record system as recited in claim 15 wherein said optical scanner includes a laser scanner.

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17. A redeemable coupon disbursement control and record system comprising:

(a) An automated teller machine including a user communication means for communication between the automated teller machine user and the automated teller machine, a means for preparing a paper receipt, means for conveying said receipt paper through said automated teller machine, and a first means for recording information; and

(b) Printing means along the path of conveyance of said receipt paper for printing machine readable information on at least one surface of said receipt paper.

18. A redeemable coupon disbursement control and record system as recited in claim 17, further including means for relaying information associated with said printed information to said first recording means.

19. A redeemable coupon disbursement control and record system as recited in claim 17 wherein said first recording means is also communicably linked to said user communication means.

20. A redeemable coupon disbursement control and record system as recited in claim 17 further comprising one or more remotely located scanning means capable of receiving information from said receipt paper.

21. A redeemable coupon disbursement control and record system as recited in claim 20 wherein said remotely located scanning means are communicably linked to said first recording means.

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21. A redeemable coupon disbursement control and record system as recited in claim 20 wherein said remotely located scanning means are communicably linked to said first recording means.
22. A redeemable coupon disbursement control and record system as recited in claim 17, further including second recording means and further including means for relaying information associated with said printed information to said second recording means.
23. A redeemable coupon disbursement control and record system as recited in claim 22 wherein said second recording means is also communicably linked to said user communication means.
24. A redeemable coupon disbursement control and record system as recited in claim 22 further comprising one or more remotely located scanning means capable of receiving information from said receipt paper.
25. A redeemable coupon disbursement control and record system as recited in claim 24 wherein said remotely located scanning means are communicably linked to said second recording means.
26. A redeemable coupon disbursement control and record system as recited in claim 24 further comprising a third recording means communicably linked to said remotely located scanning means.
27. A redeemable coupon disbursement control and record system as recited in claim 26 further comprising a fourth recording means capable of receiving information from one or more of said first, second and third recording means and capable of compiling, comparing, analyzing and reconciling said information.

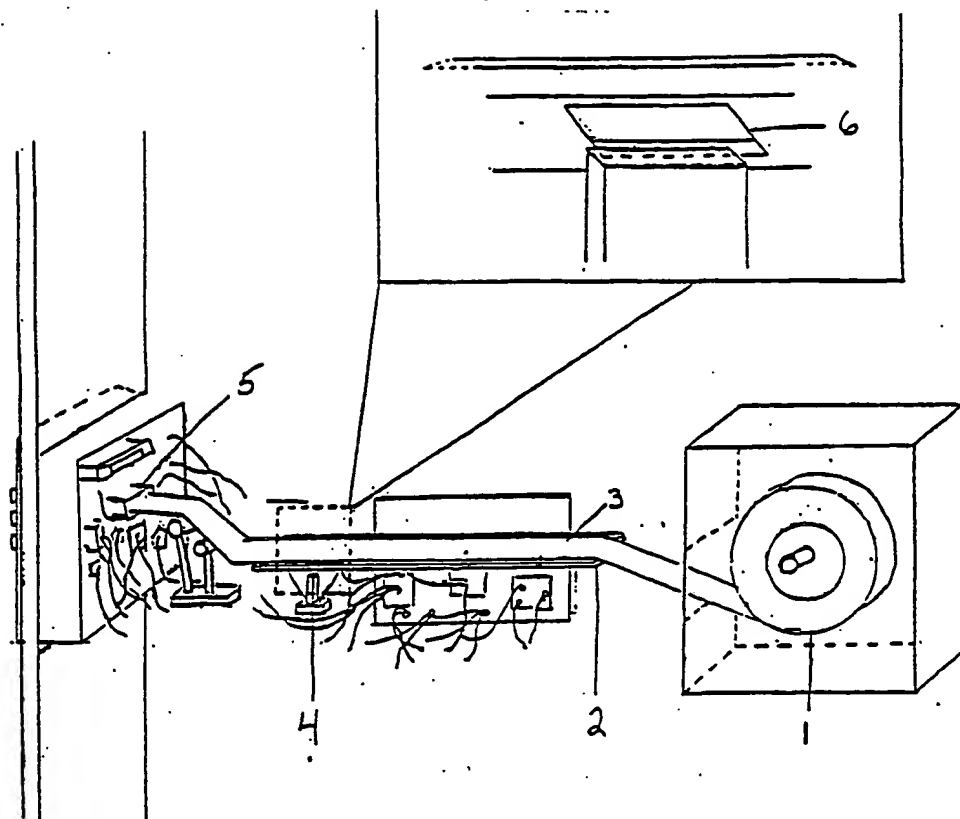
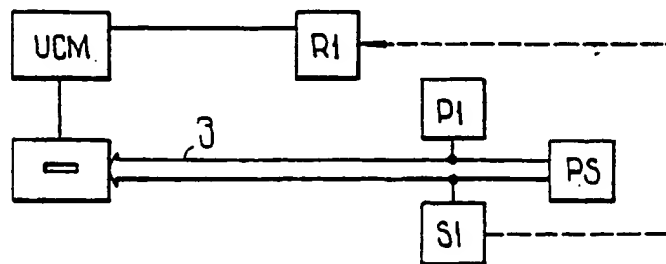
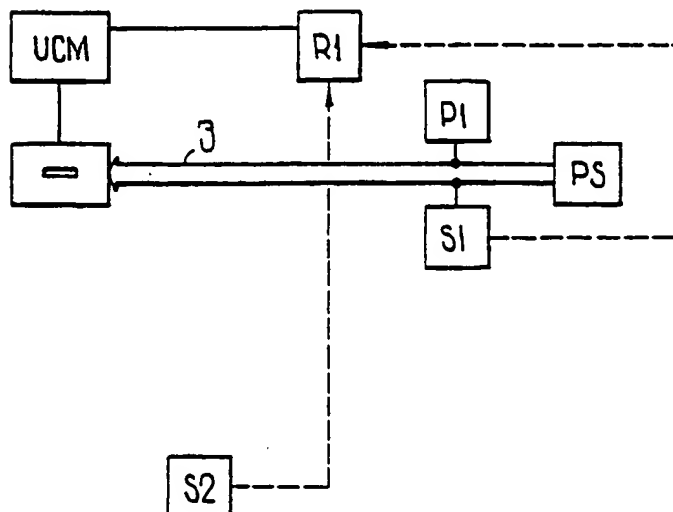


FIG. 1

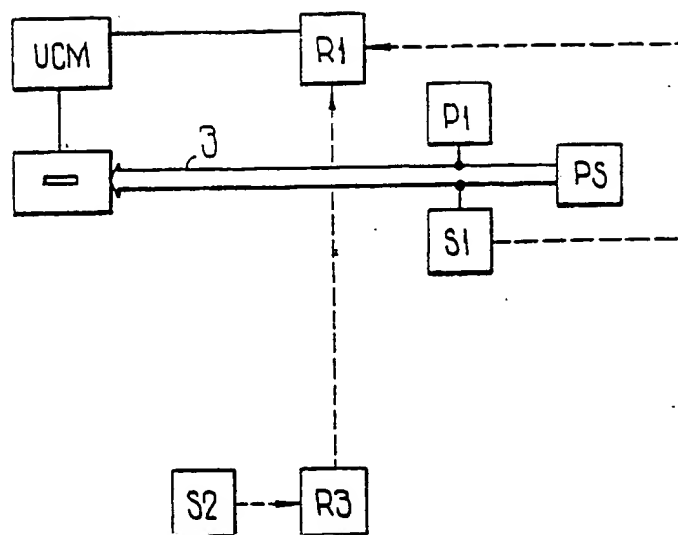


**FIG  
2**

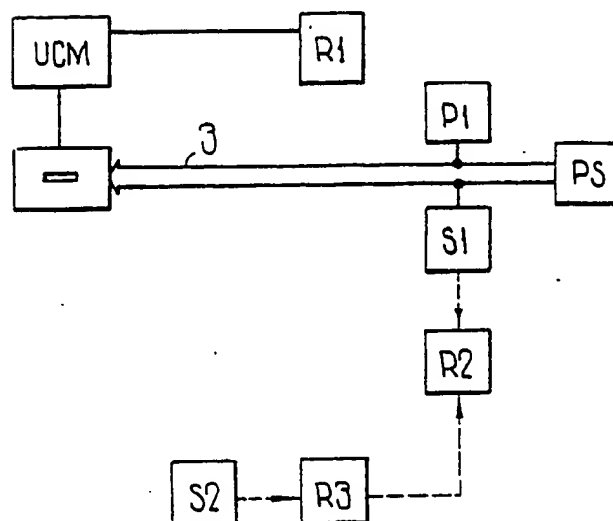


**FIG  
3**

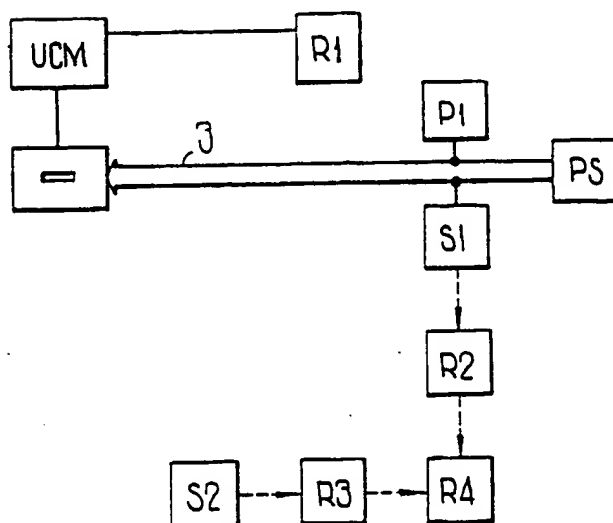




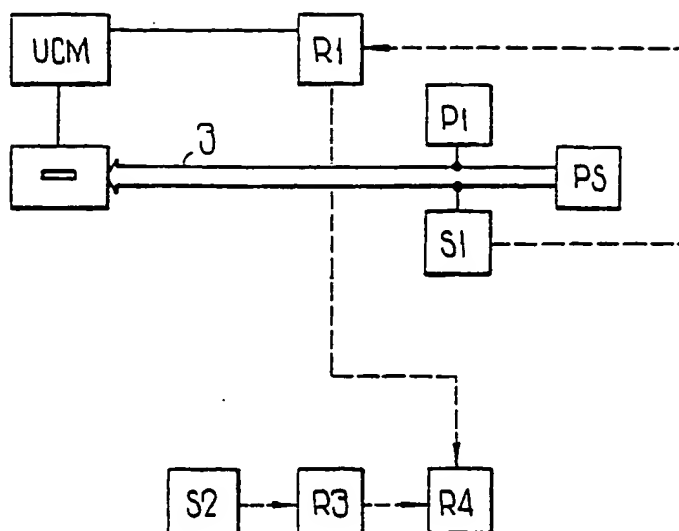
**FIG**  
**4**



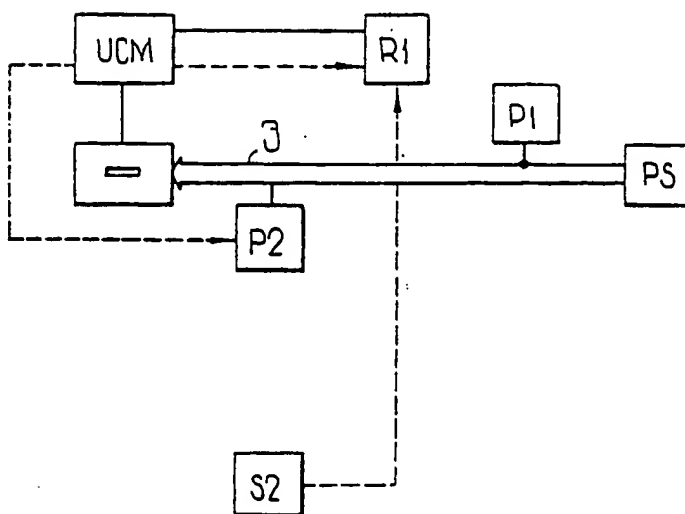
**FIG**  
**5**



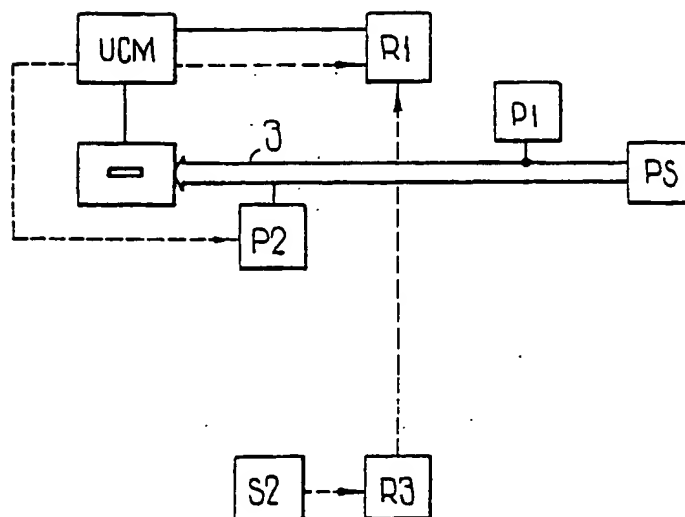
**FIG**  
**6**



**FIG**  
**7**

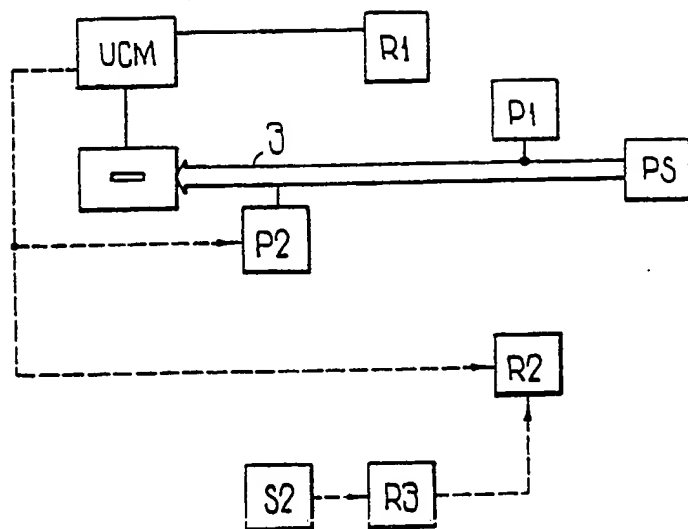


**FIG**  
**8**

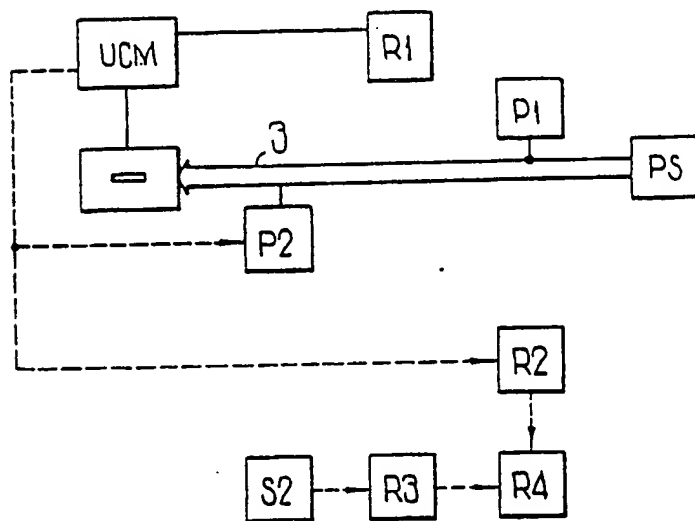


**FIG**  
**9**

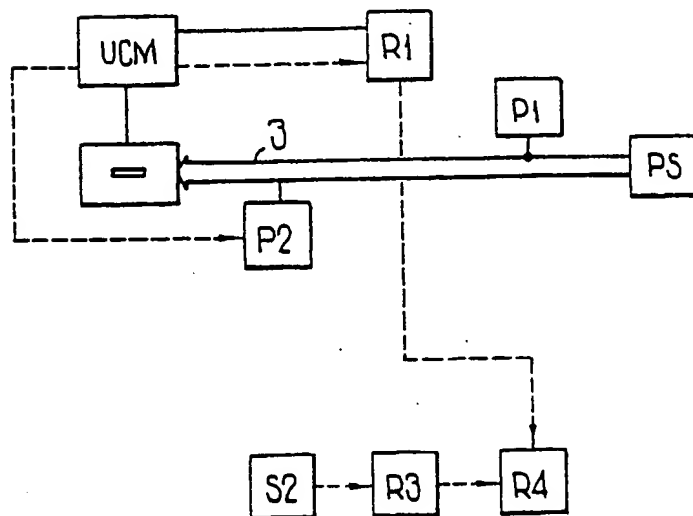
4/4



**FIG**  
**10**



**FIG**  
**11**



**FIG**  
**12**

# INTERNATIONAL SEARCH REPORT

International Application No. **PCT/US88/04312**

## I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) <sup>6</sup>

According to International Patent Classification (IPC) or to both National Classification and IPC

IPC (4): G06F 15/20

U.S. CL. 235/379

## II. FIELDS SEARCHED

Minimum Documentation Searched <sup>7</sup>

Classification System	Classification Symbols
U.S.	235/375, 379, 487

Documentation Searched other than Minimum Documentation  
to the Extent that such Documents are Included in the Fields Searched <sup>8</sup>

## III. DOCUMENTS CONSIDERED TO BE RELEVANT <sup>9</sup>

Category <sup>*</sup>	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>
Y, P	US, A, 4,717,043, Published 05 January 1988 (GROOVES et al.) See entire document.	1, 2, 9, 17
Y, P	US, A, 4,723,212, Published 02 February 1988 (MINDRUM et al) see entire document.	1-26
Y	US, A, 4,593,183 Published 03 June 1986 (FUKATSU) see entire document.	1, 2, 9, 17

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"&" document member of the same patent family

## IV. CERTIFICATION

Date of the Actual Completion of the International Search

02 March 1989

Date of Mailing of this International Search Report

**14 APR 1989**

International Searching Authority

ISA/US

Signature of Authorized Officer

LEON K. FULLER

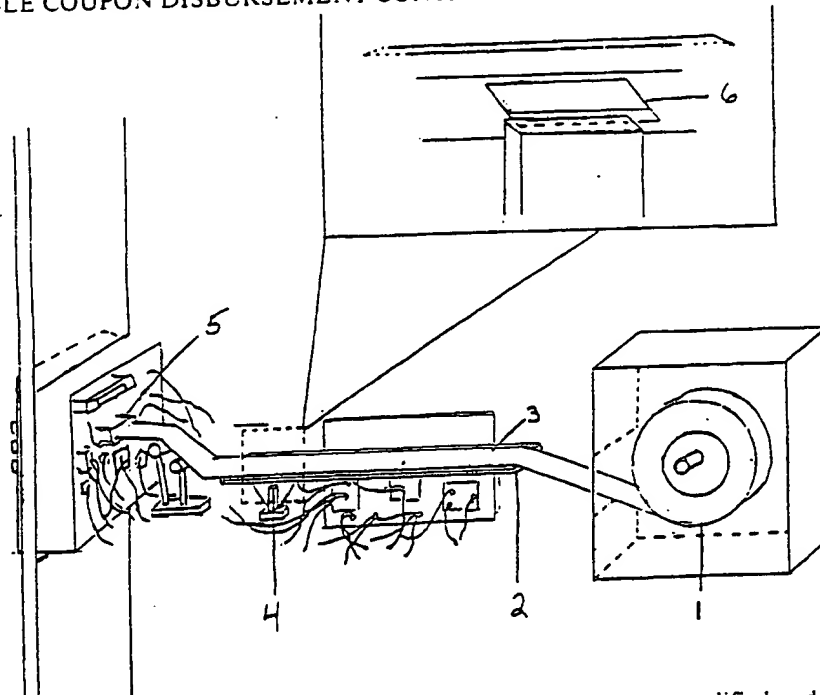
*Leon K. Fuller*



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(21) International Application Number: PCT/US88/04312 (22) International Filing Date: 7 December 1988 (07.12.88) (31) Priority Application Number: 130,088 (32) Priority Date: 8 December 1987 (08.12.87) (33) Priority Country: US  (71)(72) Applicant and Inventor: HALLIBURTON, W., Kenneth, Jr. [US/US]; 3826 Chisholm Road, Murfreesboro, TN 37129 (US). (74) Agents: ANDERSEN, Donald, R.; 1479 Brockett Road, Suite 200, Tucker, GA 30084 (US) et al.  (81) Designated States: AT (European patent), BE (European patent), CH (European patent), DE (European patent), FR (European patent), GB (European patent), IT (European patent), JP, LU (European patent), NL (European patent), SE (European patent).		<b>Published</b> <i>With international search report.          Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: REDEEMABLE COUPON DISBURSEMENT CONTROL AND REPORTING SYSTEM



## (57) Abstract

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CONTROL AND REPORTING SYSTEM

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Automated teller machines also have means for communicating with the customer. Generally, the automated teller machine has a visual display device for

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providing instructions and information to the customer, and the automated teller machine has a manually-operated keyboard, panel or set of switches by which the customer supplies information to the bank regarding each transaction.

Advertisers frequently seek to target customer groups such as those conducting banking business in a given geographical area. Because banks are generally unwilling to provide customer lists to prospective advertisers and because banks are often unable to determine which branches their customers most frequently use, such advertisers must seek other means of reaching such groups effectively and efficiently. Historically, coupon promotion success has been capable of being measured in general terms only, by comparing gross sales before, during and after the promotion. A comparison of the number of coupons actually distributed to the number of coupons actually used is generally inaccurate because of the inability to track printed coupons which for one reason or another are discarded prior to distribution to a customer. In addition, it is difficult to control disbursement, and it is not unusual to find coupons being accumulated for multiple use by the same customer.

In addition, banks are finding costs continuing to increase but have generally not developed any means for effectively using the reverse side of automated teller machine receipts for generating income. Instead, banks charge users of their automated teller machines a fee for each transaction. Many automated teller machines are capable of handling the transactions of customers of more than one banking institution through a networking arrangement, and the fees charged per transaction are generally higher for users who are not customers of the bank owning the particular automated teller machine. The fees for both bank customers and nonbank customers, though generally small, are usually substantially higher than the fee charged for writing a check, and some



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customers avoid using automated teller machines to avoid the fee, instead, writing checks or otherwise handling their banking needs. Because the overhead associated with a bank's automated teller machine fluctuates only slightly with greatly increased volume, increased volume can significantly increase profitability (or decrease losses) from the automated teller machine and therefore banks seek to increase the use of their automated teller machines. The fees charged for use of automated teller machines are generally in amounts similar to the amounts frequently found in redeemable coupon promotions conducted by fast food restaurants and other vendors.

It is believed that the most frequently occurring transaction at automated teller machines is that of cash withdrawal from the customer's account. Thus, customers of automated teller machines are likely to have cash in hand at the time of receipt of the automated teller machine receipts. Further, automated teller machines are frequently used after regular banking hours but during hours in which fast food and other vendors remain open, and automated teller machines are generally designed to limit the number of transactions which may be conducted by a given customer within a given time period.

Finally, it is difficult to devise inexpensive and effective systems for distributing single coupons to individual customers. Printed materials that are widely distributed as through mailings or publication of advertising in newspapers and magazines are subject to accumulation in the hands of a few customers for multiple use, requiring the vendor to honor coupons, usually done at a loss for promotional purposes, without the intended widespread goodwill and diversity of customers.

#### SUMMARY OF INVENTION

It is an object of the present invention to provide an inexpensive and flexible redeemable coupon disbursement control and reporting system especially for use with automated teller machines.

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It is a further object of the present invention to provide a modification to an automated teller machine by adding a bar code scanner along the paper path of such automated teller machine for the purpose of reading preprinted bar codes on the reverse of a continuous roll of automated teller machine receipt paper.

It is a further object of the present invention to replace the single-function diodes used to control receipt paper length with a multi-function bar code scanner having the capability of both signaling proper paper length and relaying additional information to a recording device.

It is a further object of the present invention to provide a modification to an automated teller machine by adding a printer capable of printing coupon information on the back of an automated teller machine receipt and which is responsive to selections made by the user of the automated teller machine.

It is a further object of the present invention to provide a modification to an automated teller machine by adding a wand bar code scanner at a remote location capable of reading bar code information printed on automated teller machine receipt paper.

It is a further object of the present invention to provide a modification to an automated teller machine by making receipts issued therefrom more valuable and less subject to being disposed of indiscriminately, thus reducing littering near the automated teller machine.

It is a further object of the present invention to provide a modification to an automated teller machine for the purpose of reducing the net cost to the user.

It is a further object of the present invention to place redeemable coupons in the hands of prospective customers who are likely to have cash in hand.

It is a further object of the present invention to provide a system for controlling the number of coupons distributed to each individual customer.

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It is a further object of the present invention to provide means for accurately recording information about the automated teller machine redeemable coupon receipts which are actually redeemed at remote locations.

The foregoing objectives and still other objectives and advantages of the present invention will become apparent upon reading the following specification describing one preferred embodiment of the invention and also by reading the claims and referring to the following drawings in which the numbered parts of the embodiment described in the specification are shown by like numbered parts in the drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a preferred embodiment of the present invention.

FIG. 2 is a schematic diagram of the same preferred embodiment of the present invention.

FIG. 3 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 4 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 5 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 6 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 7 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 8 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 9 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 10 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 11 is a schematic diagram of another preferred embodiment of the present invention.

FIG. 12 is a schematic diagram of another preferred embodiment of the present invention.

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DESCRIPTION OF PREFERRED EMBODIMENTS

The following descriptions set forth preferred embodiments of the present invention. It will be understood that there are other embodiments of the present invention, and the scope of the present invention is not limited by the following description of preferred embodiments.

Referring to Figure 1, one preferred embodiment of the improved automated teller machine has a bar code scanner 4 positioned below a metal paper conveyer 2 having a hole 6 to permit the bar code scanner 4 to be directed toward, and focused on, the back of the continuous roll of automated teller machine receipt paper 1. The continuous roll of automated teller machine receipt paper 1 has been preprinted with advertising materials such as redeemable coupons together with a bar code symbol encoded with information describing such advertising material and also describing the location at which the receipt paper is being used. In order to avoid redemption of preprinted coupons which have not been properly disbursed through the control and reporting system, language is added to the coupon stating that a valid banking transaction must appear on the reverse to validate the coupon. The bar code scanner 4 is connected to recording means, shown schematically in Figures 1 through 12 as R1 or R2, such as a computer, and sends the encoded information from each bar code to such recorder R1 or R2. The bar code scanner 4 may also be connected to the conveyer 2 to control the length of the individual receipt to be cut from the continuous roll of automated teller machine receipt paper 3 by cutting means. The conveyer may be started by the user of the automated teller machine at the automated teller machine face 5 at the conclusion of the transaction and then may be stopped by a signal from the bar code scanner 4.

Using the improved automated teller machine, advertisers will be able to target banking customers in a

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given locale and will have an accurate record of the number of redeemable coupons actually issued, permitting a subsequent comparison of the number of coupons actually redeemed to the number of coupons actually issued.

Referring now to Figures 8 through 12, in a second preferred embodiment of the present invention, a printer P2, is added in a position to permit printing on the back of the continuous roll of automated teller machine receipt paper 3. The printer P2 is capable of printing both bar code symbols and alpha numeric information and may be responsive to instructions given by an automated teller machine customer at the user communication means UCM. The automated teller machine means for communicating with the customer UCM would be programmed to give the customer an opportunity and means for selecting one or more of a group of coupons which the customer would like to have printed on the back of his automated teller machine receipt. Thus, a single vendor can compare which of a group of discounts would be the greatest motivator in attracting the customer to his establishment. Information gathered would be useful in providing reliable market research to be used in designing future promotions and in particular would result in better use of advertising space in printed publications where cost and space do not permit a vendor to provide a variety of coupons from which the customer can select.

In the second preferred embodiment of the present invention, it will be possible to provide redeemable coupons from a variety of vendors so that each customer should be able to find at least one coupon for a vendor that he would like to patronize.

In a third preferred embodiment of the present invention, one or more wand bar code scanners S2 are placed at remote locations for the purpose of recording information from the automated teller machine redeemable coupon receipts as they are redeemed. Ideally, such

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remote scanners S2 would be communicably attached, as by a modem and dedicated telephone line, to the recording means R1 or R2. Alternatively, independent recording means R3 may be used with the remotely located wand bar code scanners S2. Data from such independent recording means R3 may be preserved in any convenient form such as a machine-readable disk and such data may be entered into the recording device R1 or R2 from time to time at convenient intervals for consolidation and reconciliation of data. Alternatively, a fourth recording device R4 at a central location may be used to consolidate data from multiple automated teller machines and remote wand bar code scanner means recording devices R3.

From the foregoing description it will be seen that this invention provides an improved automated teller machine meeting the objectives set forth above. It will be understood, however, by those skilled in the art that this invention may be adapted to encompass other embodiments of the invention other than the preferred embodiments set forth above, that the embodiments of the invention described above are merely illustrative, and that the present invention is limited solely by the appended claims.

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CLAIMS

1. A redeemable coupon disbursement control and record system comprising:
  - (a) An automated teller machine including a user communication means for communication between the automated teller machine user and the automated teller machine, a means for preparing a paper receipt, a means for conveying said receipt paper through said automated teller machine, and a first means for recording information;
  - (b) Scanning means along the path of conveyance of said receipt paper for reading information recorded on at least one surface of said receipt paper; and
  - (c) Means for relaying information from said scanning means to said first recording means.
2. A redeemable coupon disbursement control and record system as recited in claim 1 wherein said scanner is an optical scanner.
3. A redeemable coupon disbursement control and record system as recited in claim 2 wherein said optical scanner includes a laser scanner.
4. A redeemable coupon disbursement control and record system as recited in claim 1 wherein said first recording means is also communicably linked to said user communication means.
5. A redeemable coupon disbursement control and record system as recited in claim 1 further comprising one or more remotely located scanning means capable of receiving information from said receipt paper.

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6. A redeemable coupon disbursement control and record system as recited in claim 5 wherein said remotely located scanning means are communicably linked to said first recording means.
7. A redeemable coupon disbursement control and record system as recited in claim 5 further comprising a second recording means communicably linked to said remotely located scanning means.
8. A redeemable coupon disbursement control and record system as recited in claim 7 further comprising a third recording means capable of receiving information from one or more of said first and second recording means and capable of compiling, comparing, analyzing and reconciling said information.
9. A redeemable coupon disbursement control and record system comprising:
  - (a) An automated teller machine including a user communication means for communication between the automated teller machine user and the automated teller machine, means for preparing a paper receipt, means for conveying said receipt paper through said automated teller machine, and a first means for recording information and a second means for recording information;
  - (b) Scanning means along the path of conveyance of said receipt paper for reading information recorded on at least one surface of said receipt paper; and
  - (c) Means for relaying information from said scanning means to said second recording means.



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10. A redeemable coupon disbursement control and record system as recited in claim 9 wherein said second recording means is also communicably linked to said user communication means.
11. A redeemable coupon disbursement control and record system as recited in claim 9 further comprising one or more remotely located scanning means capable of receiving information from said receipt paper.
12. A redeemable coupon disbursement control and record system as recited in claim 11 wherein said remotely located scanning means are communicably linked to said second recording means.
13. A redeemable coupon disbursement control and record system as recited in claim 11 further comprising a third recording means communicably linked to said remotely located scanning means.
14. A redeemable coupon disbursement control and record system as recited in claim 14 further comprising a fourth recording means capable of receiving information from one or more of said first, second and third recording means and capable of compiling, comparing, analyzing and reconciling said information.
15. A redeemable coupon disbursement control and record system as recited in claim 9 wherein said scanning means includes an optical scanner.
16. A redeemable coupon disbursement control and record system as recited in claim 15 wherein said optical scanner includes a laser scanner.

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17. A redeemable coupon disbursement control and record system comprising:

(a) An automated teller machine including a user communication means for communication between the automated teller machine user and the automated teller machine, a means for preparing a paper receipt, means for conveying said receipt paper through said automated teller machine, and a first means for recording information; and

(b) Printing means along the path of conveyance of said receipt paper for printing machine readable information on at least one surface of said receipt paper.

18. A redeemable coupon disbursement control and record system as recited in claim 17, further including means for relaying information associated with said printed information to said first recording means.

19. A redeemable coupon disbursement control and record system as recited in claim 17 wherein said first recording means is also communicably linked to said user communication means.

20. A redeemable coupon disbursement control and record system as recited in claim 17 further comprising one or more remotely located scanning means capable of receiving information from said receipt paper.

21. A redeemable coupon disbursement control and record system as recited in claim 20 wherein said remotely located scanning means are communicably linked to said first recording means.

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21. A redeemable coupon disbursement control and record system as recited in claim 20 wherein said remotely located scanning means are communicably linked to said first recording means.
22. A redeemable coupon disbursement control and record system as recited in claim 17, further including second recording means and further including means for relaying information associated with said printed information to said second recording means.
23. A redeemable coupon disbursement control and record system as recited in claim 22 wherein said second recording means is also communicably linked to said user communication means.
24. A redeemable coupon disbursement control and record system as recited in claim 22 further comprising one or more remotely located scanning means capable of receiving information from said receipt paper.
25. A redeemable coupon disbursement control and record system as recited in claim 24 wherein said remotely located scanning means are communicably linked to said second recording means.
26. A redeemable coupon disbursement control and record system as recited in claim 24 further comprising a third recording means communicably linked to said remotely located scanning means.
27. A redeemable coupon disbursement control and record system as recited in claim 26 further comprising a fourth recording means capable of receiving information from one or more of said first, second and third recording means and capable of compiling, comparing, analyzing and reconciling said information.

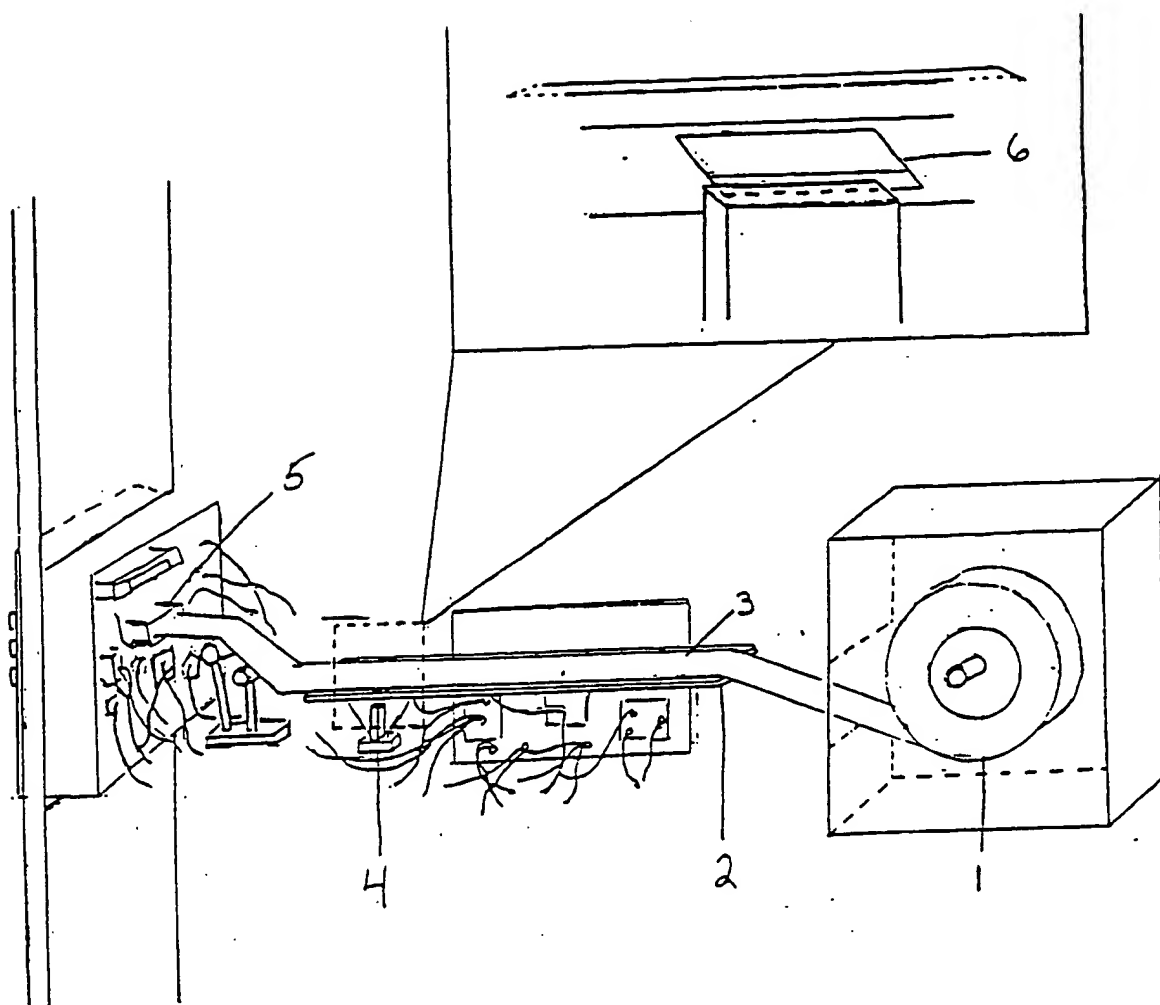


FIG. 1

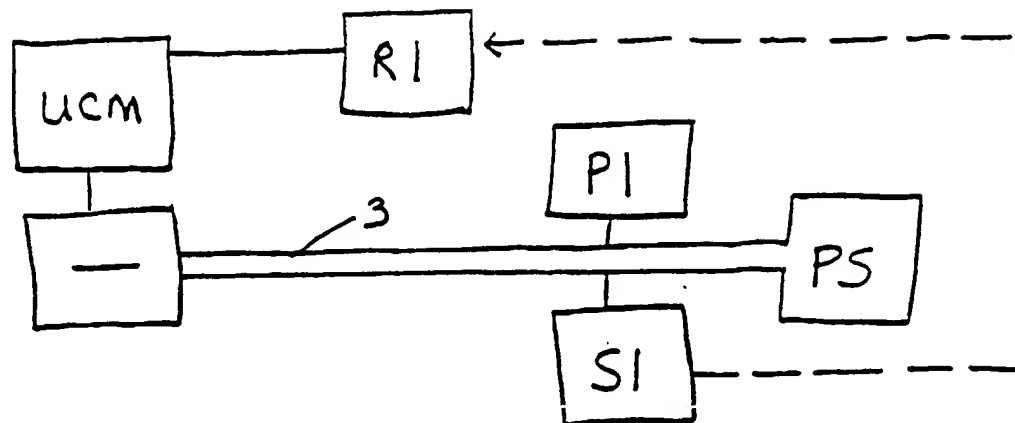


FIG. 2

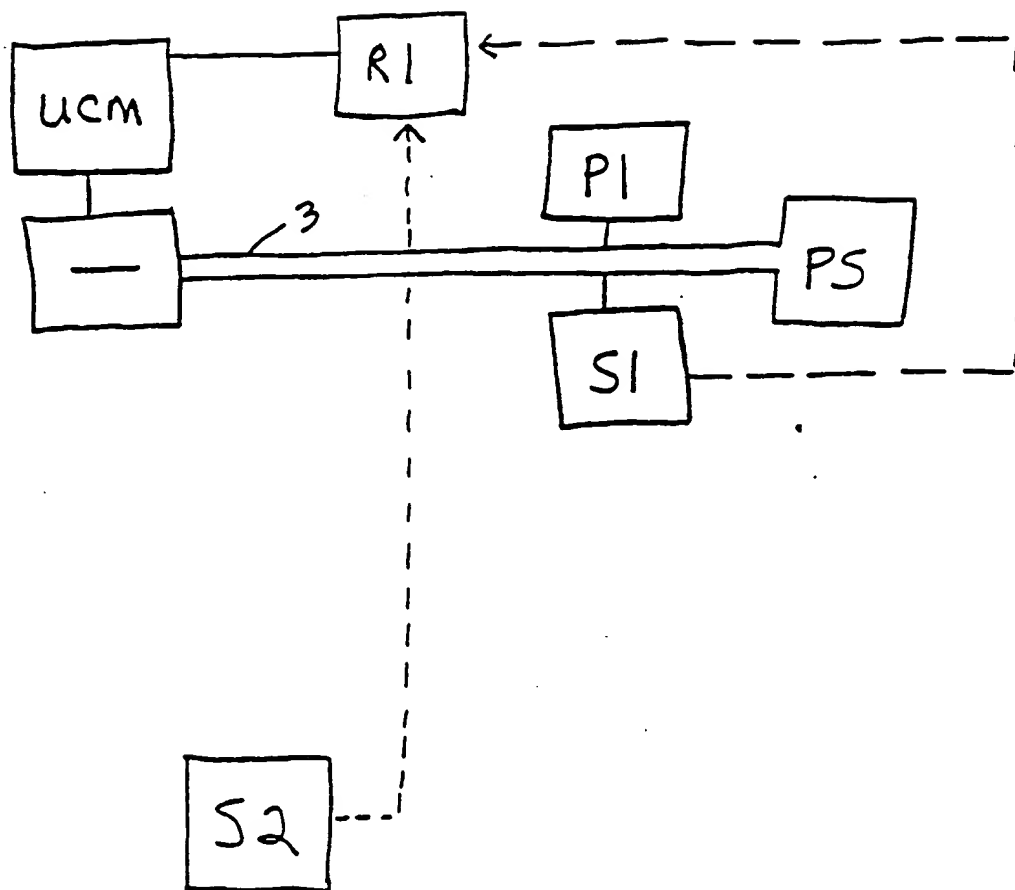


FIG. 3

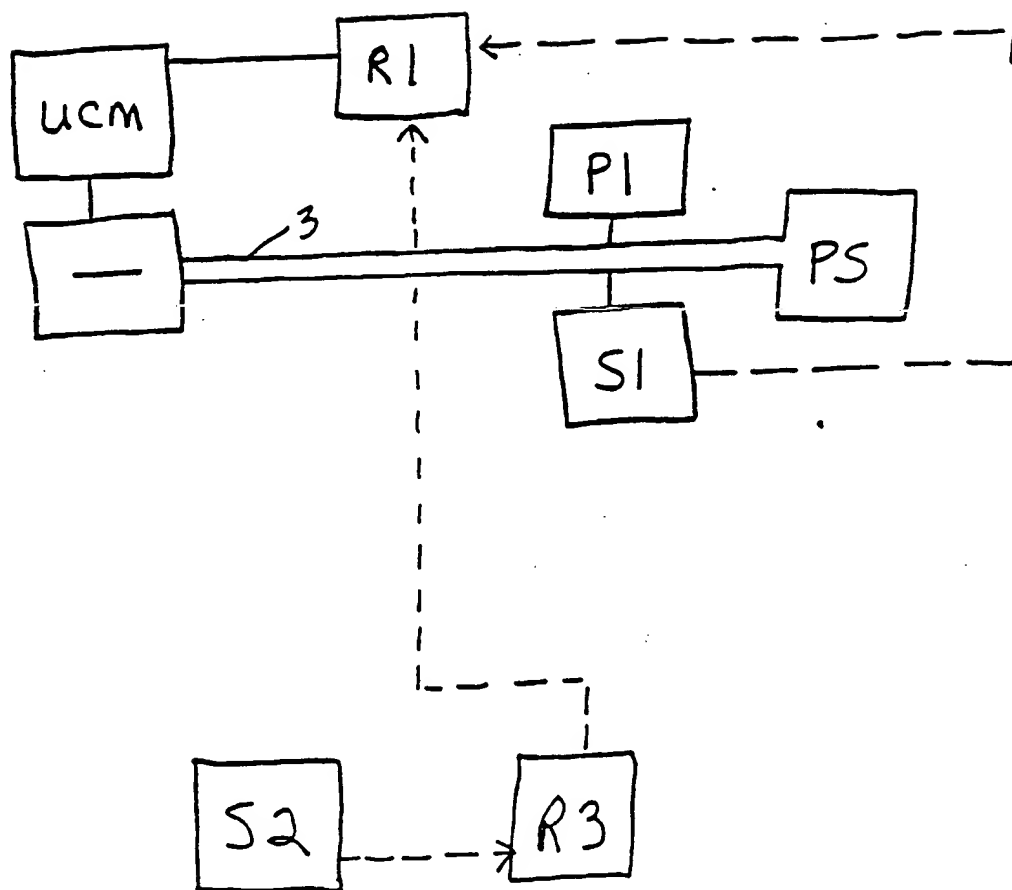


FIG. 4

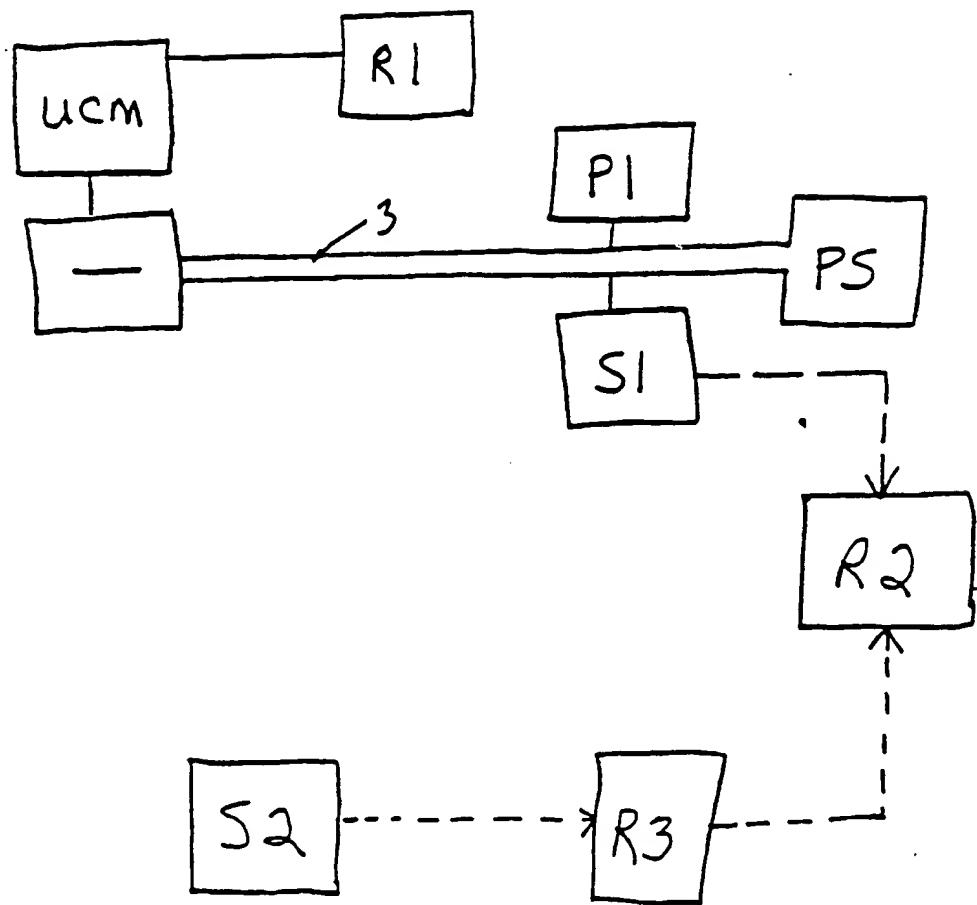


FIG. 5



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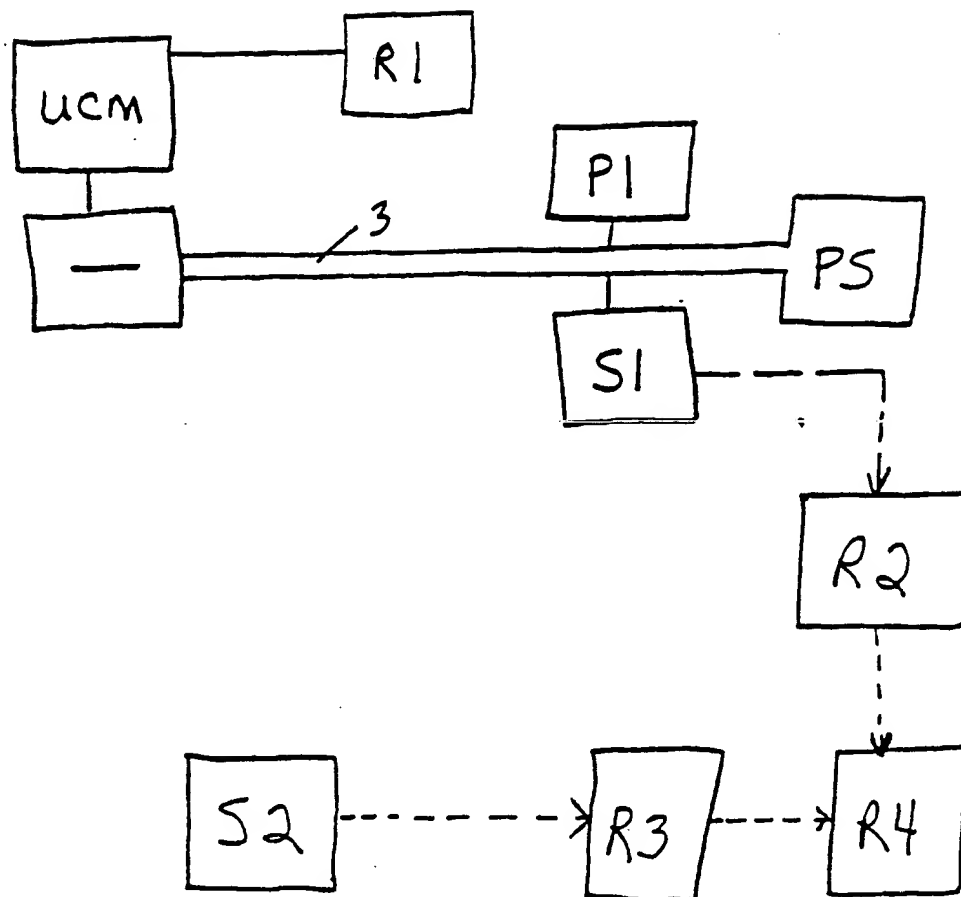


FIG. 6

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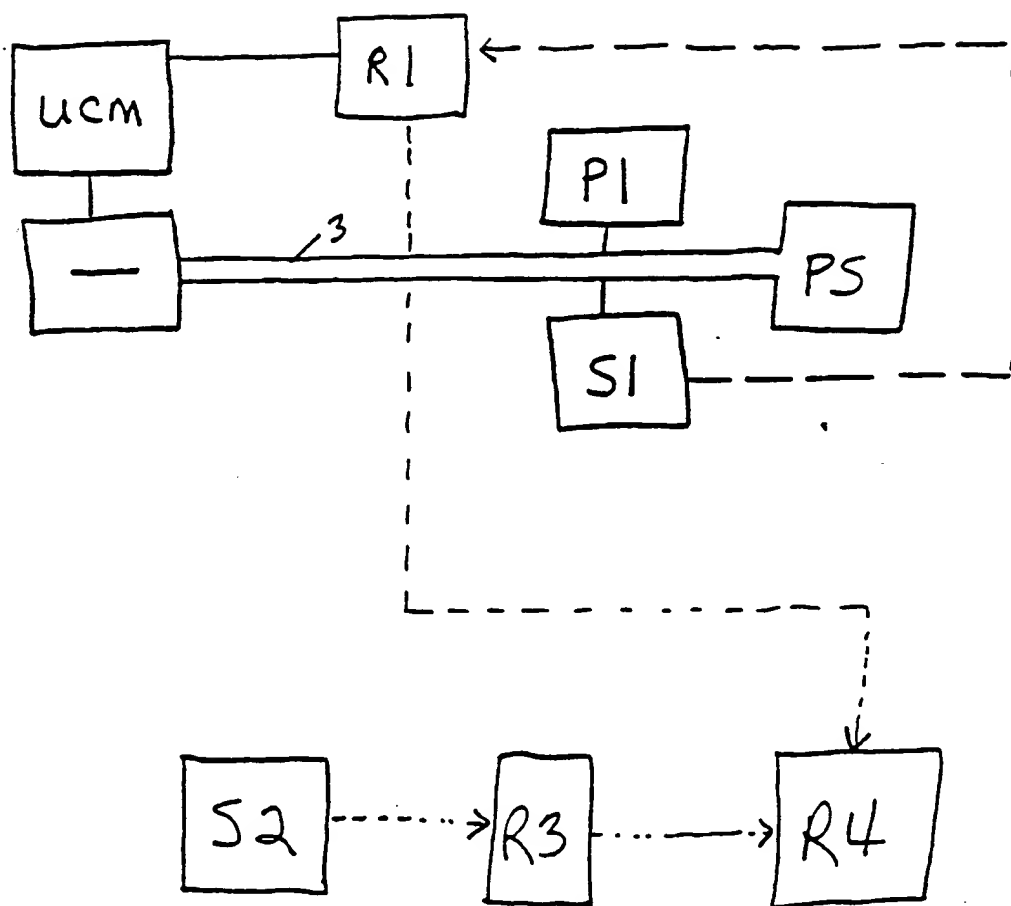


FIG. 7.

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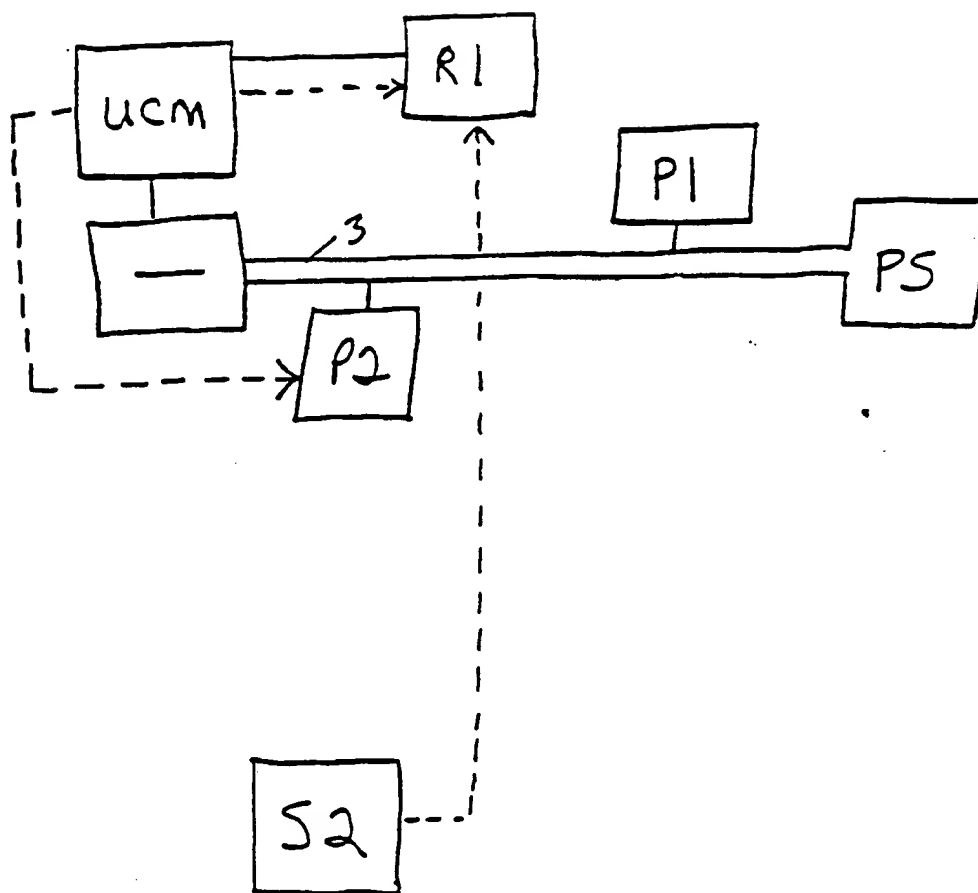


FIG. 8

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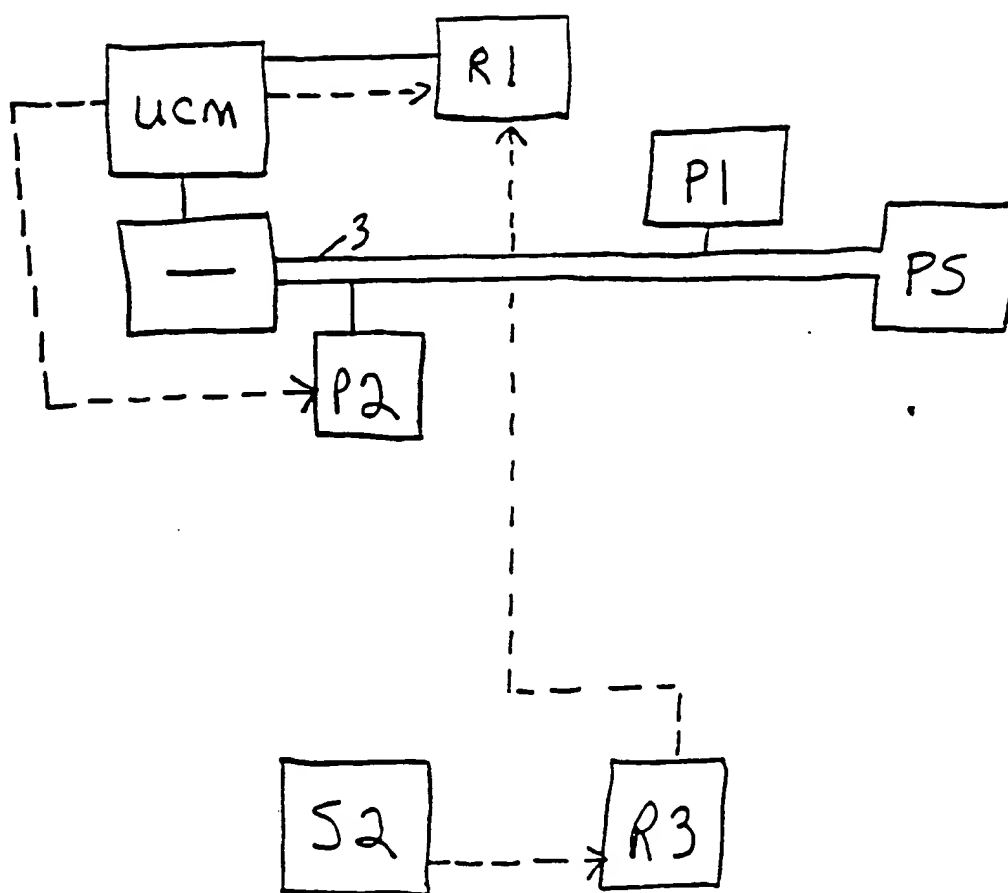


FIG. 9

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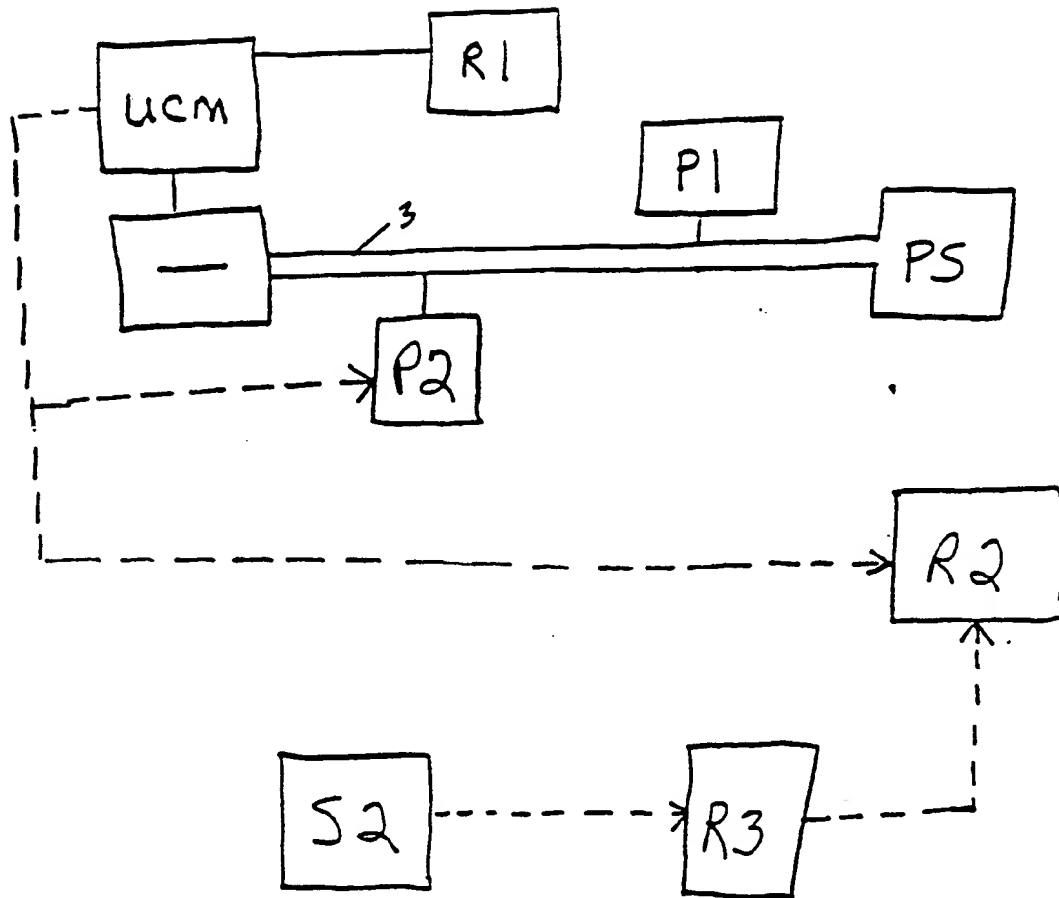


FIG. 10

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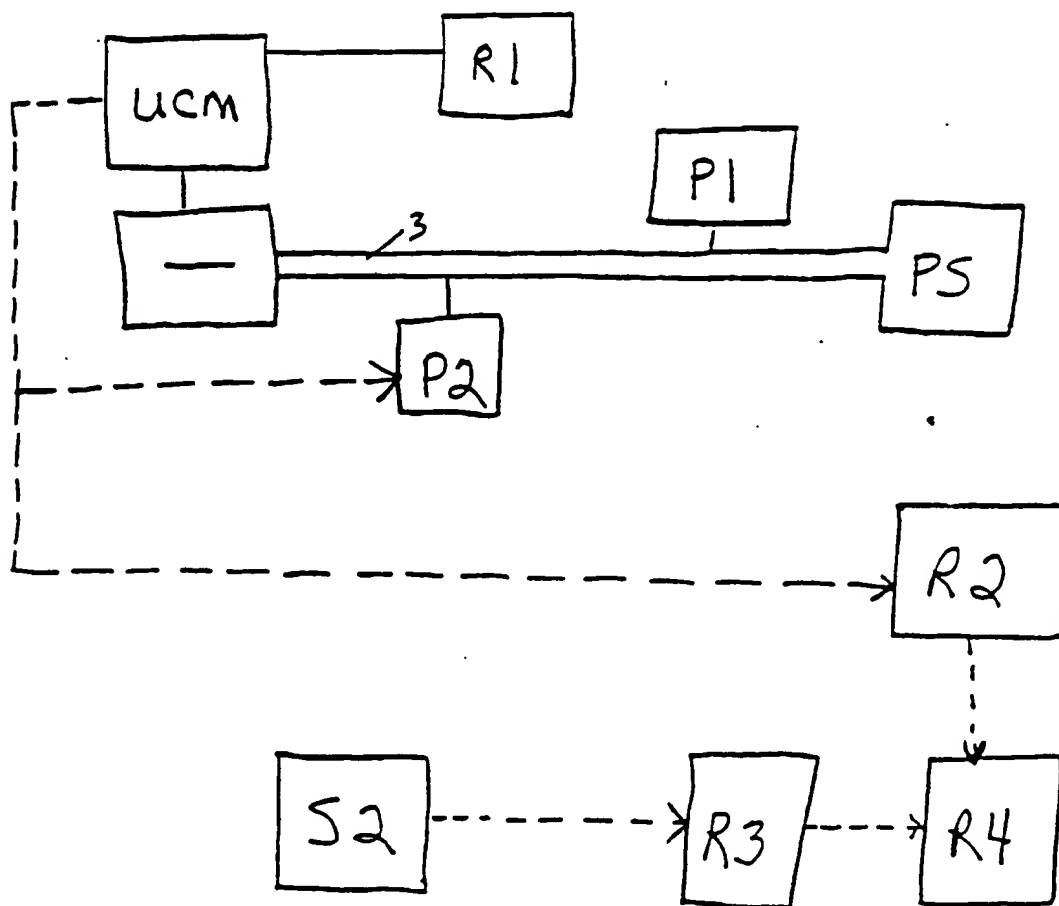


FIG. 11

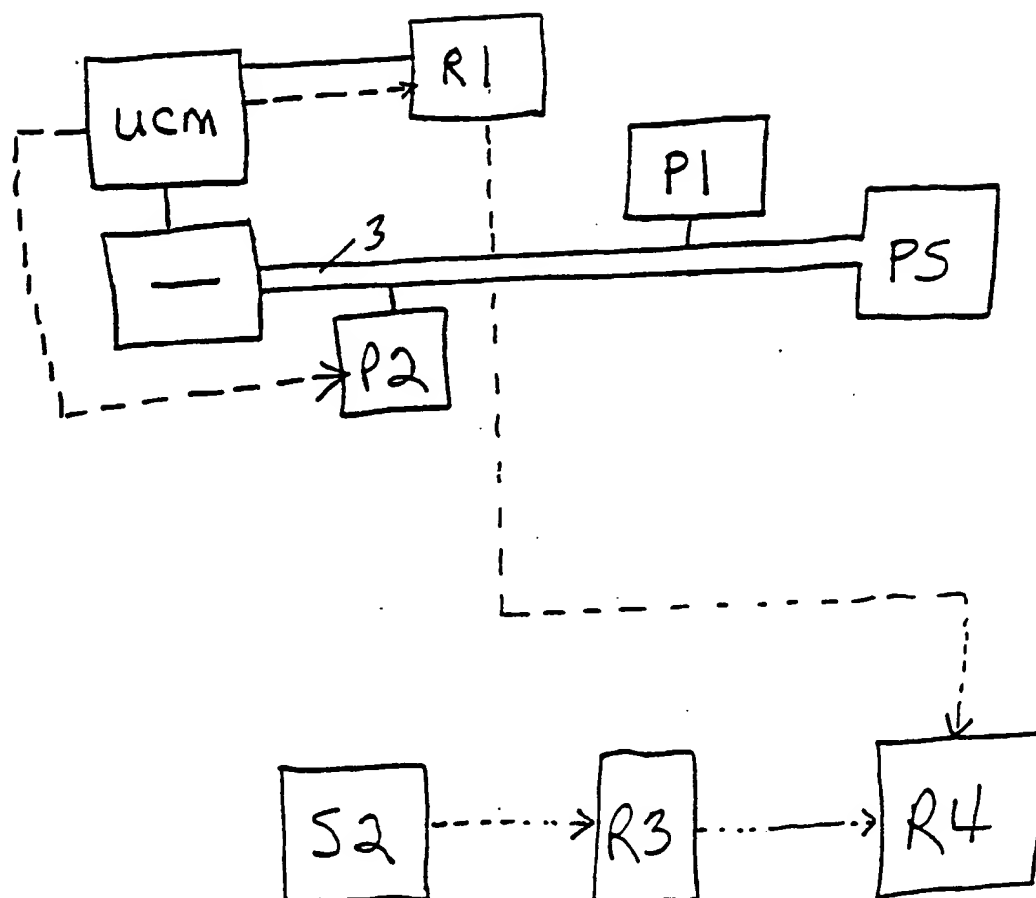


FIG. 12

# INTERNATIONAL SEARCH REPORT

International Application No. **PCT/US88/04312**

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (if several classification symbols apply, indicate all) <sup>6</sup>		
According to International Patent Classification (IPC) or to both National Classification and IPC <b>IPC (4): G06F 15/20</b> <b>U.S. CL. 235/379</b>		
<b>II. FIELDS SEARCHED</b>		
Minimum Documentation Searched <sup>7</sup>		
Classification System	Classification Symbols	
U.S.	235/375, 379, 487	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched <sup>8</sup>		
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT <sup>9</sup></b>		
Category <sup>*</sup>	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>
Y, P	US, A, 4,717,043, Published 05 January 1988 (GROOVES et al.) See entire document.	1,2,9,17
Y, P	US, A, 4,723,212, Published 02 February 1988 (MINDRUM et al) see entire document.	1-26
Y	US, A, 4,593,183 Published 03 June 1986 (FUKATSU) see entire document.	1,2,9,17
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><sup>*</sup> Special categories of cited documents: <sup>10</sup></p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"Δ" document member of the same patent family</p> </div> </div>		
<b>IV. CERTIFICATION</b>		
Date of the Actual Completion of the International Search		Date of Mailing of this International Search Report
02 March 1989		14 APR 1989
International Searching Authority		Signature of Authorized Officer
ISA/US		 <b>LEON K. FULLER</b>